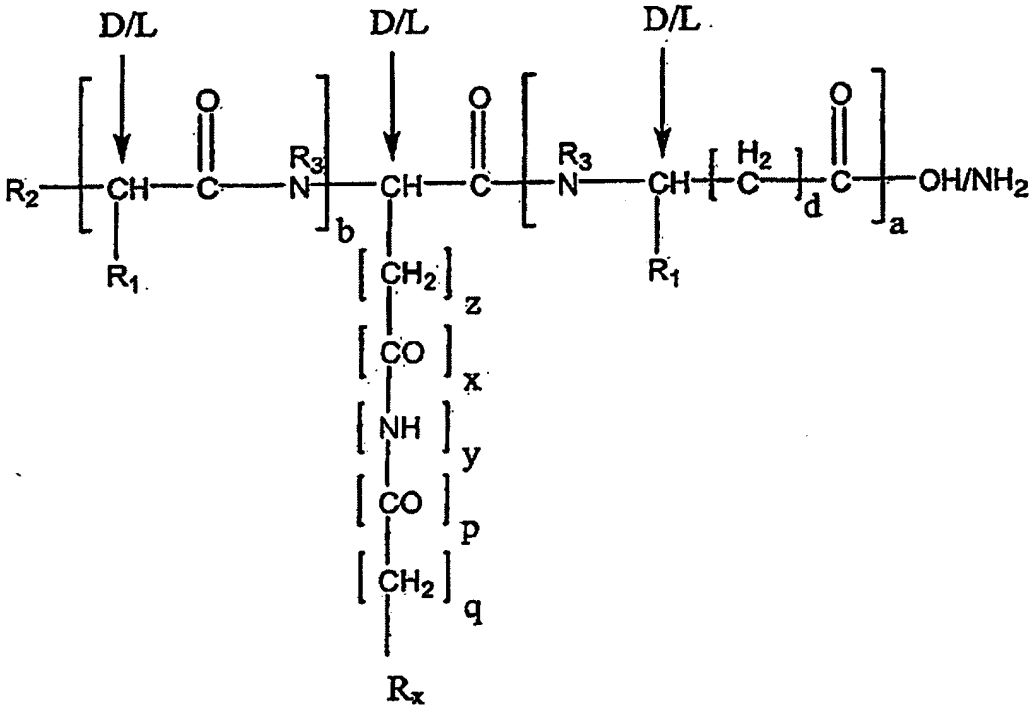
AMENDMENTS TO THE CLAIMS

1. (Currently amended) A peptide represented by the general formula I:



or a pharmaceutically acceptable salt thereof,

wherein, if a is 1 then b is 0;

if a is 0 then b is 1;

wherein z is 1-7;

wherein if x is 1 then y and q are 1 and p is 0;

wherein if p is 1 then x and q are 0 and y is 1;

and further, ~~wherein,~~

~~wherein if R_1 is H then d is 0-8;~~

wherein ~~if R_1 is not H then~~ d is 0;

wherein R_1 is the side chain of an amino acid selected from the group consisting of alanine, arginine, asparagine, aspartic acid, cysteine, glutamic ~~acid;~~ acid, glutamine, glycine, histidine, isoleucine, leucine, lysine, methionine, phenylalanine, proline, serine, threonine, tryptophan, tyrosine, and valine;

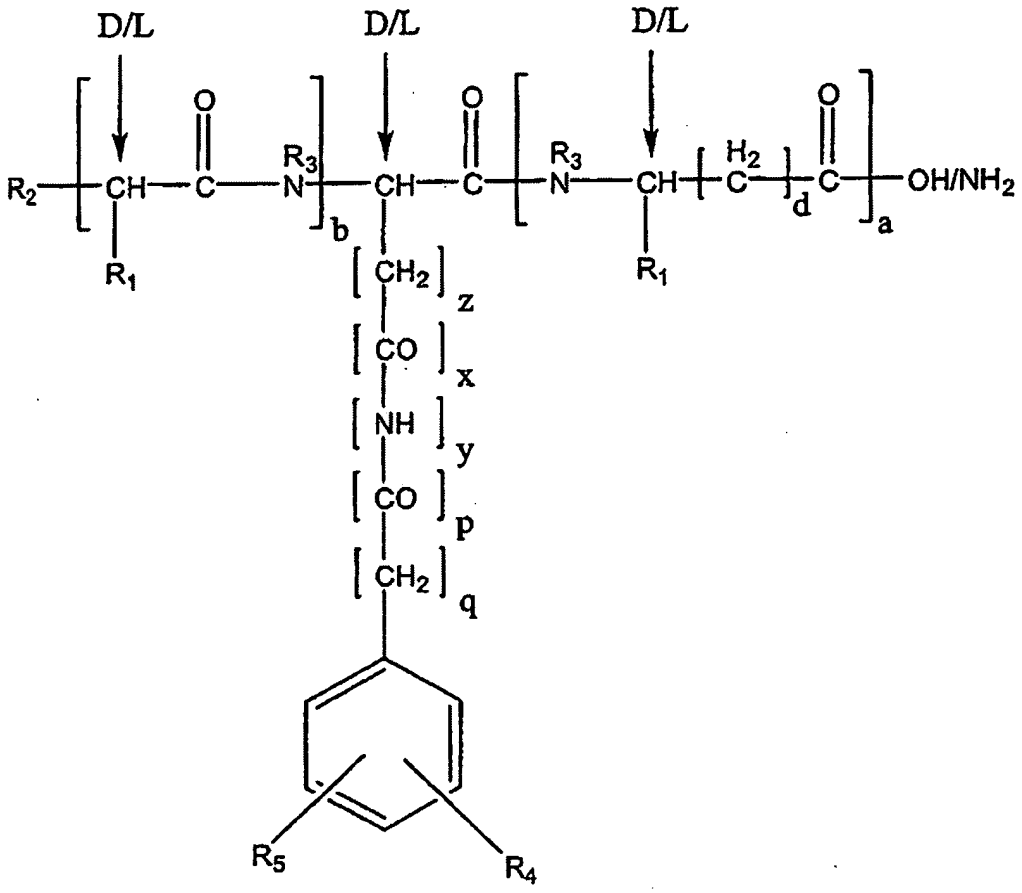
wherein R_2 is selected from the group consisting of NH_2, NHR, NR_2, NR_3^+H, OH, SH, RO, RS, RSO, RSO_2, ~~CO~~$_R$ COR, CSR, COOH, COOR, $CONH_2$, CONHR, ~~CONR2~~ $CONR_2$, OCOR, and SCOR, wherein R [[=]] is alkyl, alkenyl, aryl, aralkyl, or cycloalkyl;

wherein R_3 [[=]] is H or CH_3; and

wherein R_x is a hydrophobic group.

2-55. (Cancelled)

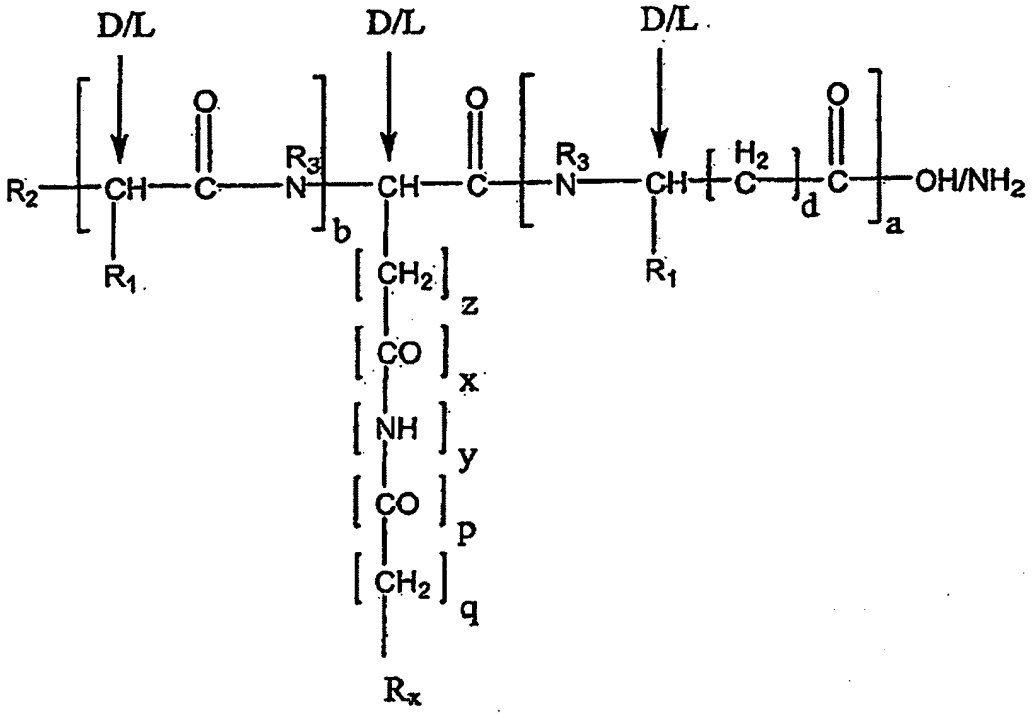
56. (New) The peptide of claim 1, wherein said peptide is represented by general formula II:



or a pharmaceutically acceptable salt thereof,

wherein R_4 and R_5 are independently selected from the group consisting of H, alkyl, alkenyl, aryl, aralkyl, halogen, CN, NO_2, alkoxy, aryloxy, aralkyloxy, thioalkoxy, thioaryloxy, thioaralkyloxy, $+S(CH_3)_2$, SO_3H, SO_2R, NH_2, NHR, NR_2, $+NR_3$, OH, SH, COOH, COOR, $CONH_2$, CONHR, $CONR_2$, CH_2OH, NCO, NCOR, NHOH, $NHNH_2$, NHNRH, CH_2OCOR, CH_2OCSR, COR, CSR, CSOR, CF_3, and CCl_3, and wherein R is alkyl, alkenyl, aryl, aralkyl, or cycloalkyl.

57. (New) A peptide represented by the general formula I:



or a pharmaceutically acceptable salt thereof,

wherein, if a is 1 then b is 0;

if a is 0 then b is 1;

wherein z is 1-7;

wherein if x is 1 then y and q are 1 and p is 0;

wherein if p is 1 then x and q are 0 and y is 1;

wherein R_1 is the side chain of an amino acid selected from the group consisting of alanine, arginine, asparagine, aspartic acid, cysteine, glutamic acid, glutamine, glycine, histidine, isoleucine, leucine, lysine, methionine, phenylalanine, proline, serine, threonine, tryptophan, tyrosine, and valine;

wherein if R_1 is the side chain of glycine, then d is 0-8;

wherein if R_1 is the side chain of alanine, arginine, asparagine, aspartic acid, cysteine, glutamic acid, glutamine, histidine, isoleucine, leucine, lysine, methionine, phenylalanine, proline, serine, threonine, tryptophan, tyrosine, or valine, then d is 0;

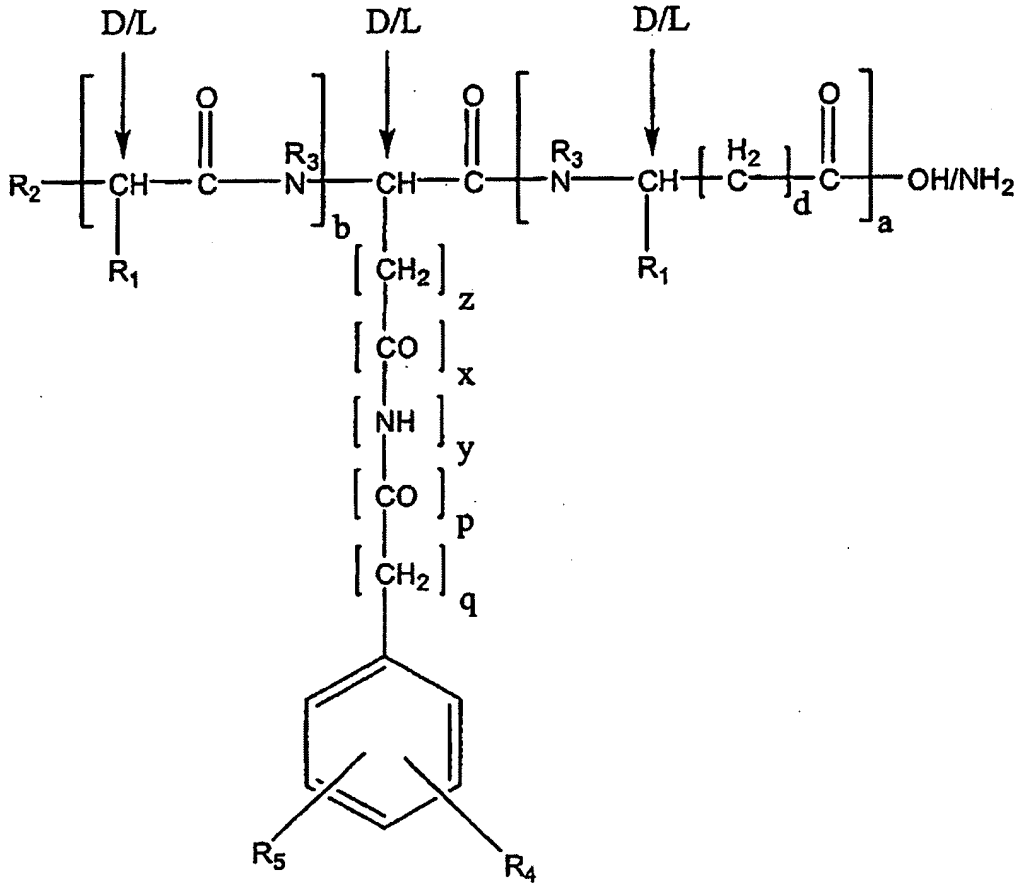
wherein R_2 is selected from the group consisting of NH_2, NHR, NR_2, NR_3^+H, OH, SH, RO, RS, RSO, RSO_2, COR, CSR, COOH, COOR, $CONH_2$, CONHR, $CONR_2$, OCOR, and SCOR, and wherein R is alkyl, alkenyl, aryl, aralkyl, or cycloalkyl;

wherein R_3 is H or CH_3;

wherein R_x is a hydrophobic group; and

wherein said peptide comprises at least one D amino acid.

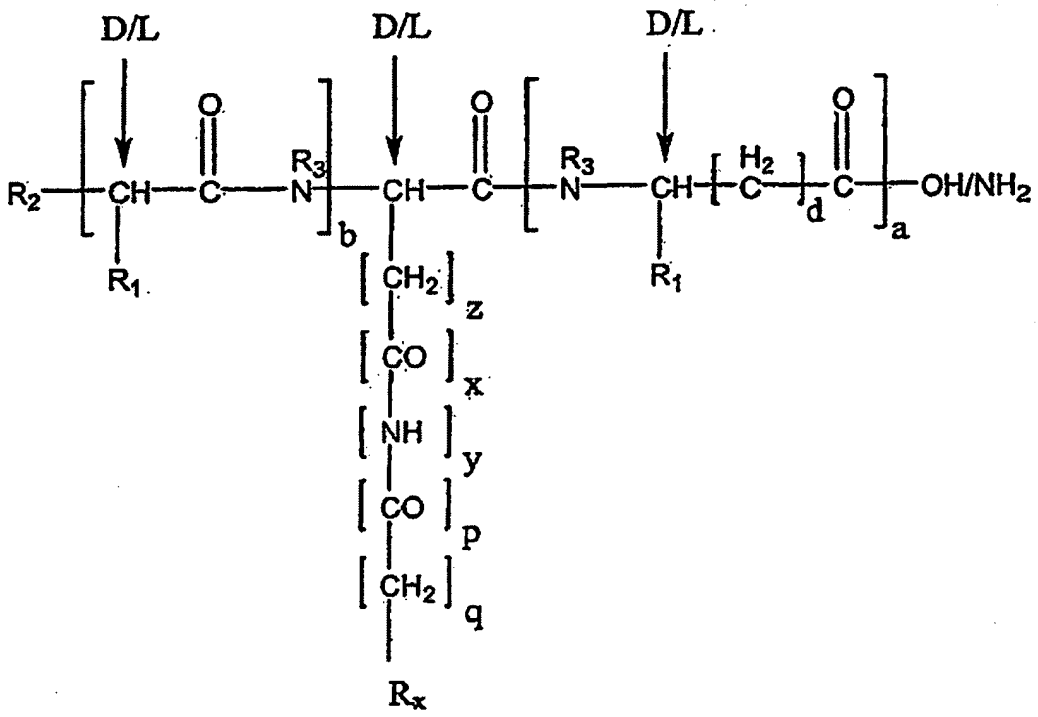
58. (New) The peptide of claim 57, wherein said peptide is represented by general formula II:



or a pharmaceutically acceptable salt thereof,

wherein R_4 and R_5 are independently selected from the group consisting of H, alkyl, alkenyl, aryl, aralkyl, halogen, CN, NO_2, alkoxy, aryloxy, aralkyloxy, thioalkoxy, thioaryloxy, thioaralkyloxy, $+S(CH_3)_2$, SO_3H, SO_2R, NH_2, NHR, NR_2, $+NR_3$, OH, SH, COOH, COOR, $CONH_2$, CONHR, $CONR_2$, CH_2OH, NCO, NCOR, NHOH, $NHNH_2$, NHNRH, CH_2OCOR, CH_2OCSR, COR, CSR, CSOR, CF_3, and CCl_3, and wherein R is alkyl, alkenyl, aryl, aralkyl, or cycloalkyl.

59. (New) A peptide represented by the general formula I:



or a pharmaceutically acceptable salt thereof,

wherein, if a is 1 then b is 0;

if a is 0 then b is 1;

wherein z is 1, 2, 4, 5, 6, or 7;

wherein if x is 1 then y and q are 1 and p is 0;

wherein if p is 1 then x and q are 0 and y is 1;

wherein R_1 is the side chain of an amino acid selected from the group consisting of alanine, arginine, asparagine, aspartic acid, cysteine, glutamic acid, glutamine, glycine, histidine, isoleucine, leucine, lysine, methionine, phenylalanine, proline, serine, threonine, tryptophan, tyrosine, and valine;

wherein if R_1 is the side chain of glycine, then d is 0-8;

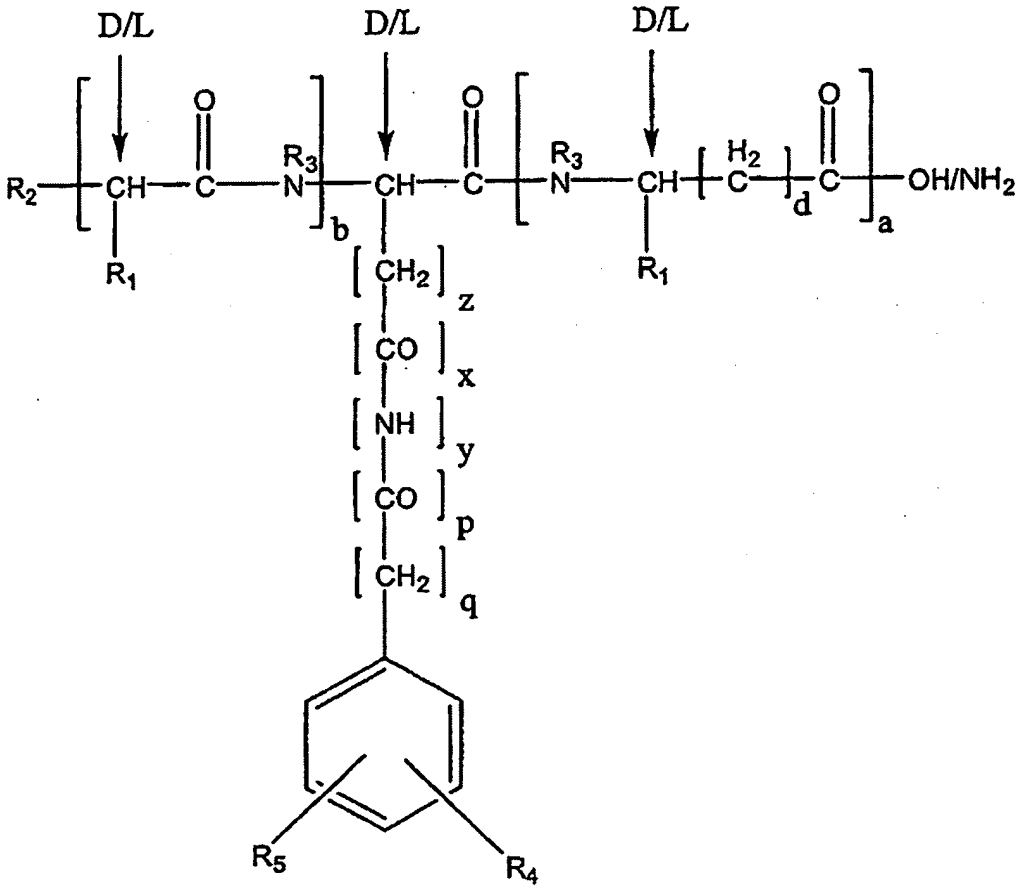
wherein if R_1 is the side chain of alanine, arginine, asparagine, aspartic acid, cysteine, glutamic acid, glutamine, histidine, isoleucine, leucine, lysine, methionine, phenylalanine, proline, serine, threonine, tryptophan, tyrosine, or valine, then d is 0;

wherein R_2 is selected from the group consisting of NH_2, NHR, NR_2, NR_3^+H, OH, SH, RO, RS, RSO, RSO_2, COR, CSR, COOH, COOR, $CONH_2$, CONHR, $CONR_2$, OCOR, and SCOR, wherein R is alkyl, alkenyl, aryl, aralkyl, or cycloalkyl;

wherein R_3 is H or CH_3;

wherein R_x is a hydrophobic group.

60. (New) The peptide of claim 59, wherein said peptide is represented by general formula II:



or a pharmaceutically acceptable salt thereof,

wherein R_4 and R_5 are independently selected from the group consisting of H, alkyl, alkenyl, aryl, aralkyl, halogen, CN, NO_2, alkoxy, aryloxy, aralkyloxy, thioalkoxy, thioaryloxy, thioaralkyloxy, $+S(CH_3)_2$, SO_3H, SO_2R, NH_2, NHR, NR_2, $+NR_3$, OH, SH, COOH, COOR, $CONH_2$, CONHR, $CONR_2$, CH_2OH, NCO, NCOR, NHOH, $NHNH_2$, NHNRH, CH_2OCOR, CH_2OCSR, COR, CSR, CSOR, CF_3, and CCl_3, and wherein R is alkyl, alkenyl, aryl, aralkyl, or cycloalkyl.

61. (New) The peptide of claim 1, 57, or 59, or a pharmaceutically acceptable salt thereof, wherein R_x comprises an aromatic carbon ring.

62. (New) The peptide of claim 61, or a pharmaceutically acceptable salt thereof, wherein said aromatic carbon ring comprises a 6 or 12 membered ring or a substituted form thereof.

63. (New) The peptide of claim 62, or a pharmaceutically acceptable salt thereof, wherein said ring is substituted with at least one selected from the group consisting of a lower alkyl, alkoxy, hydroxyl, carboxy, amine, thiol, hydrazide, amide, halide, hydroxyl, ether, amine, nitrile, imine, nitro, sulfide, sulfoxide, sulfone, thiol, aldehyde, keto, carboxy, ester, amide, seleno, and thio, or a derivative thereof.

64. (New) The peptide of claim 63, or a pharmaceutically acceptable salt thereof, wherein said ring comprises 1 or 2 substitutions.

65. (New) The peptide of claim 62, or a pharmaceutically acceptable salt thereof, wherein said ring is selected from the group consisting of a benzyl, phenyl, and napthyl, or a substituted form thereof.

66. (New) The peptide of claim 1, 57, or 59, or a pharmaceutically acceptable salt thereof, wherein said peptide comprises a free N-terminal, a free C-terminal, or both a free N- and C-terminal.

67. (New) The peptide of claim 1, 57, or 59, or a pharmaceutically acceptable salt thereof, wherein said hydrophobic group is a 6-membered aromatic carbon ring comprising a substituent at the 4-position.

68. (New) The peptide of claim 67, or a pharmaceutically acceptable salt thereof, wherein said substituent is selected from the group consisting of alkyl, alkoxy, hydroxyl, carboxy, amine, thiol, hydrazide, amide, halide, hydroxyl, ether, amine, nitrile, imine, nitro, sulfide, sulfoxide, sulfone, thiol, aldehyde, keto, carboxy, ester, amide, seleno, and thio, or a derivative thereof.

69. (New) The peptide of claim 1, 57, or 59, or a pharmaceutically acceptable salt thereof, wherein said peptide is an orally available peptide.

70. (New) The peptide of claim 1, 57, or 59, or a pharmaceutically acceptable salt thereof, wherein said peptide has a half-life in an *in vitro* plasma stability assay of more than about 30 minutes.

71. (New) The peptide of claim 1, 57, or 59, or a pharmaceutically acceptable salt thereof, wherein said peptide has a half-life in an *in vitro* plasma stability assay of more than about 48 hours.

72. (New) The peptide of claim 1, 57, or 59, or a pharmaceutically acceptable salt thereof, wherein said peptide binds to a tissue, cell, or cell fraction that is a site of action for an antiarrhythmic peptide.

73. (New) The peptide of claim 72, or a pharmaceutically acceptable salt thereof, wherein said antiarrhythmic peptide is selected from the group consisting of AAP, AAP10, and HP5, or a functional analog thereof.

74. (New) The peptide of claim 1, or a pharmaceutically acceptable salt thereof, wherein said peptide is selected from the group consisting of the peptides shown in Table 1.

75. (New) The peptide of claim 74, or a pharmaceutically acceptable salt thereof, wherein said peptide is selected from the group consisting of H-D-Lys(2,4-dinitrobenzoyl)-Gly-OH (Compound 103), H-D-Lys(2,4-dimethylbenzoyl)-Gly-OH (Compound 104), H-D-Lys(2,5-dimethylbenzoyl)-Gly-OH (Compound 105), H-D-Lys(3,5-dimethylbenzoyl)-Gly-OH (Compound 106), H-D-Lys(2,4-dichlorobenzoyl)-Gly-

OH (Compound 107), H-D-Lys(2,5-dichlorobenzoyl)-Gly-OH (Compound 108), H-D-Lys(4-fluoro-3-nitrobenzoyl)-Gly-OH (Compound 109), and H-D-Lys(3-fluoro-4-methylbenzoyl)-Gly-OH (Compound 110).

76. (New) The peptide of claim 74, or a pharmaceutically acceptable salt thereof, wherein said peptide is selected from the group consisting of H-Gly-D-Lys(4-methoxybenzoyl)-OH (Compound 12), H-Gly-D-Lys(4-nitrobenzoyl)-OH (Compound 13), H-Gly-D-Lys(4-fluorobenzoyl)-OH (Compound 14), H-Gly-D-Lys(4-cyanobenzoyl)-OH (Compound 15), H-Gly-D-Lys(4-nitrobenzoyl)-OH (Compound 16), and H-Gly-D-Lys(benzoyl)-OH (Compound 17).

77. (New) The peptide of claim 74, or a pharmaceutically acceptable salt thereof, wherein said peptide is selected from the group consisting of H-D-Lys(4-methoxybenzoyl)-Gly-OH (Compound 21), H-D-Lys(4-nitrobenzoyl)-Gly-OH (Compound 22), H-D-Lys(benzoyl)-Gly-OH (Compound 23), H-D-Lys(4-fluorobenzoyl)-Gly-OH (Compound 24), H-D-Lys(4-cyanobenzoyl)-Gly-OH (Compound 25), and H-D-Lys(4-chlorobenzoyl)-Gly-OH (Compound 26).

78. (New) The peptide of claim 77, or a pharmaceutically acceptable salt thereof, wherein said peptide is selected from the group consisting of H-D-Lys(4-

methoxybenzoyl)-Gly-OH (Compound 21), H-D-Lys(4-nitrobenzoyl)-Gly-OH (Compound 22), and H-D-Lys(benzoyl)-Gly-OH (Compound 23).

79. (New) The peptide of claim 74, or a pharmaceutically acceptable salt thereof, wherein said peptide is selected from the group consisting of H-D-Lys(4-cyanobenzoyl)-Sar-OH (Compound 31), H-D-Lys(4-methoxybenzoyl)-Sar-OH (Compound 32), H-D-Lys(4-fluorobenzoyl)-Sar-OH (Compound 33), H-D-Lys(4-chlorobenzoyl)-Sar-OH (Compound 34), H-D-Lys(4-nitrobenzoyl)-Sar-OH (Compound 35), H-D-Lys(benzoyl)-Sar-OH (Compound 36), H-Ala-D-Lys(4-methoxybenzoyl)-OH (Compound 37), H-Val-D-Lys(4-methoxybenzoyl)-OH (Compound 38), H-Ile-D-Lys(4-methoxybenzoyl)-OH (Compound 39), H-Leu-D-Lys(4-methoxybenzoyl)-OH (Compound 40), H-Phe-D-Lys(4-methoxybenzoyl)-OH (Compound 41), H-Trp-D-Lys(4-methoxybenzoyl)-OH (Compound 42), H-His-D-Lys(4-methoxybenzoyl)-OH (Compound 43), H-Tyr-D-Lys(4-methoxybenzoyl)-OH (Compound 44), H-D-Lys(4-methoxybenzoyl)-Ala-OH (Compound 45), H-D-Lys(4-methoxybenzoyl)-Phe-OH (Compound 46), H-D-Lys(4-methoxybenzoyl)-Ile-OH (Compound 47), H-D-Lys(4-methoxybenzoyl)-Leu-OH (Compound 48), H-D-Lys(4-methoxybenzoyl)-Val-OH (Compound 49), H-D-Lys(4-methoxybenzoyl)-His-OH (Compound 50), H-D-Lys(4-methoxybenzoyl)-Trp-OH (Compound 51), H-D-Lys(4-methoxybenzoyl)-Tyr-OH (Compound 52), H-D-Lys(4-phenoxybenzoyl)-Gly-OH (Compound 53), H-D-Lys(4-t-butylbenzoyl)-Gly-OH

(Compound 54), H-D-Lys(4-n-butoxybenzoyl)-Gly-OH (Compound 55), H-D-Lys(4-methylbenzoyl)-Gly-OH (Compound 56), H-D-Lys(4-ethylbenzoyl)-Gly-OH (Compound 57), H-D-Lys(4-n-butylbenzoyl)-Gly-OH (Compound 58), H-D-Lys(4-n-hexylbenzoyl)-Gly-OH (Compound 59), H-D-Lys(4-n-octylbenzoyl)-Gly-OH (Compound 60), H-D-Lys(4-pheylbenzoyl)-Gly-OH (Compound 61), H-D-Lys(4-benzyloxybenzoyl)-Gly-OH (Compound62), H-D-Lys(4-ethoxybenzoyl)-Gly-OH (Compound 63).

80. (New) The peptide of claim 79, or a pharmaceutically acceptable salt thereof, wherein said peptide is H-D-Lys(4-t-butylbenzoyl)-Gly-OH (Compound 54).

81. (New) The peptide of claim 74, or a pharmaceutically acceptable salt thereof, wherein said peptide is selected from the group consisting of H-Asn(NH(4-trifluoromethylbenzyl))-D-Ala-OH (Compound 79), H-Asn(NH(4-methoxybenzyl))-D-Ala-OH (Compound 80), H-Asn(NH(4-nitrobenzyl))-D-Ala-OH (Compound 81), H-Asn(NH(benzyl))-D-Ala-OH (Compound 82), H-Asn(NH(4-fluorobenzyl))-D-Ala-OH (Compound 83), H-Asn(NH(4-chlorobenzyl))-D-Ala-OH (Compound 84), H-Asn(NH(4-cyanobenzyl))-D-Ala-OH (Compound 85), H-Asn(NH(4-methylbenzyl))-D-Ala-OH (Compound 86), H-Asn(NH(4-n-butylbenzyl))-D-Ala-OH (Compound 87), H-Asn(NH(4-t-butylbenzyl))-D-Ala-OH (Compound 88), H-Asn(NH(4-n-hexylbenzyl))-D-Ala-OH (Compound 89), H-Asn(NH(4-n-octylbenzyl))-D-Ala-OH (Compound 90), H-Asn(NH(4-

phenylbenzyl))-D-Ala-OH (Compound 91), H-Asn(NH(4-phenoxybenzyl))-D-Ala-OH (Compound 92), H-Asn(NH(4-n-butoxybenzyl))-D-Ala-OH (Compound 93), H-D-Asn(NH(4-trifluoromethylbenzyl))-Ala-OH (Compound 94), H-D-Asn(NH(4-methoxybenzyl))-Ala-OH (Compound 95), and H-D-Asn(NH(4-nitrobenzyl))-Ala-OH (Compound 96).

82. (New) The peptide of claim 81, or a pharmaceutically acceptable salt thereof, wherein said peptide is H-D-Asn(NH(4-methoxybenzyl))-Ala-OH (Compound 95) or H-D-Asn(NH(4-nitrobenzyl))-Ala-OH (Compound 96).

83. (New) A pharmaceutical composition comprising a peptide of any of claims 1, 57, and 59, or a pharmaceutically acceptable salt thereof, and a pharmaceutical carrier.

84. (New) The pharmaceutical composition of claim 83, wherein said composition is orally administrable.

85. (New) A method of treating or preventing arrhythmia comprising administering to a patient in need thereof a therapeutically effective amount of a peptide of claim 1, 57, or 59 or a pharmaceutically acceptable salt thereof.

86. (New) The method of claim 85, wherein said arrhythmia is bradyarrhythmia or tachyarrhythmia.

87. (New) The method of claim 85, wherein said arrhythmia is atrial arrhythmia.

88. (New) The method of claim 85, wherein said arrhythmia is ventricular arrhythmia.